

24. (New) The locking system of claim 1, wherein the upper abutment surface of the locking element is below the second plane.

REMARKS

Entry of the foregoing, reexamination and reconsideration of the subject application are respectfully requested in light of the amendments above and the comments which follow.

As correctly noted in the Office Action Summary, claims 1-19 were pending. By the present response, claims 1-19 have been amended and claims 20-24 have been added. Thus, upon entry of the present response, claims 1-24 remain pending and await further consideration on the merits.

Support for the claim amendments can be found, for example, in at least the following portions of the specification: the original claims, the specification, page 17, line 33, and the original figures, for example, Figure 4.

CLAIM REJECTIONS UNDER 35 U.S.C. § 112, SECOND PARAGRAPH

In the Official Action at page 2, claims 1 and 8 were rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite. By way of the foregoing amendments, applicant has specifically addressed each of the comments in the Official Action concerning the claims' clarity and respectfully submits that all the pending claims fully comply with 35 U.S.C. § 112, second paragraph. Specifically, claim 1 has been amended to replace "the same" with "the joint edges." Claim 8 was alleged as indefinite

for the recitation of the term "the groove." However, applicant respectfully directs the Examiner's attention to claim 1 in which the groove has antecedent basis in the tongue and groove joint. See, for example, line 3 of amended claim 1. Further, the term groove is distinguishable over the term locking groove within the context of claim 1.

Since the terms identified by the Examiner in claims 1 and 8 as allegedly being indefinite have been addressed above, applicant respectfully requests withdrawal of the rejection of these claims.

CLAIM REJECTIONS UNDER 35 U.S.C. § 103

In the Official Action, at page 2, claims 1-19 were rejected under 35 U.S.C. § 103(a) as reciting subject matter which is allegedly obvious, and therefore allegedly unpatentable, over U.S. Patent No. 4,426,820, issued to Terbrack et al. (hereafter "*Terbrack et al.*"), in view of applicant's Figure 1c and U.S. Patent No. 3,347,048 issued to Brown et al. (hereafter "*Brown et al.*"). Applicant respectfully requests reconsideration of these rejections.

Applicant declines to take a position at this time on the appropriateness of the combination of the cited references, but reserves the right to challenge the motivation to combine the cited references at a later date, if necessary.

Application of the disclosure in applicant's Figure 1c and *Brown et al.* to the panel disclosed in *Terbrack et al.* would not have resulted in a locking system for mechanical joining of floorboards having the claimed combination and arrangement of features recited in claim 1.

The claimed invention is directed to a locking system for mechanical joining of floorboards having, *inter alia*, in a joined state, a space which extends horizontally from the inner vertical plane at least halfway to the outer vertical plane. This space is in the groove "between the inner vertical plane and the outer vertical plane and below the tongue" and "extends horizontally from the inner vertical plane and at least halfway to the outer vertical plane." See claim 1.

In contrast, and as correctly noted in the Official Action on page 3, *Terbrack et al.* does not show a space below the tongue which extends horizontally between an inner vertical plane and an outer vertical plane. The Official Action thus relies upon applicant's Figure 1c for its alleged disclosure of a space below the tongue which extends horizontally from the inner vertical plane and essentially all the way from the inner vertical plane to the outer vertical plane. The Official Action then observes that in combination with the disclosure in *Terbrack et al.*, the Figure 1c disclosure may be used to modify *Terbrack et al.* to show a space below the tongue which extends horizontally from the inner vertical plane and essentially all the way from the inner vertical plane to the outer vertical plane.

However, what Figure 1c actually discloses is a locking tongue 20 inserted into a recess 16. As depicted, the locking tongue has a beveled upper and lower surface. The upper and lower bevels each begins at the same horizontal position on the locking tongue. Thus, both the upper and lower abutment surfaces begin at the same point, i.e., begin at the inner vertical plane. This arises because both the upper and lower beveled surfaces begin their beveled surface at the same horizontal position on the locking tongue. Accordingly, since there is no horizontal offset between the upper and lower abutment surfaces at the

inner vertical plane, there is no space extending horizontally from the inner vertical plane and at least halfway to the outer vertical plane. Therefore, the combination of Figure 1c with the disclosure in *Terbrack et al.* does not result in a space below the tongue which "extends horizontally from the inner vertical plane at least halfway to the outer vertical plane."

The rejection of claims 1-19 further relies upon the disclosure in *Brown et al.* for allegedly showing lower abutment surfaces of a tongue and groove joint being positioned essentially outside an outer vertical plane. First, applicant declines to take a position at this time on the disclosure in *Brown et al.* of an upper abutment surface, but reserves the right to challenge the presence of such disclosure at a later date. Second, applicant traverses this grounds of rejection.

Applicant notes that in the joined state, for example, as depicted in Figure 2 of *Brown et al.*, the lower side 34 extends in abutment with the horizontal portion 44 of the groove 24 only to outer edge joint formed by edges 41a and 41b. This outer edge joint also demarcates the extent to which any upper abutment surface, if present, extends. Thus, to the extent that Brown et al. discloses an upper abutment surface, it is coterminous with the lower abutment surfaces. Thus, there cannot be "at least a portion of the lower abutment surfaces [are] positioned outside the vertical plane" as recited in claim 1.

From the above discussion, applicant respectfully submits that the disclosure in *Terbrack et al.* alone or in combination with the disclosure in *Brown et al.* and/or Figure 1c does not disclose a locking system having the claimed combination and features of claim 1. Therefore, applicant respectfully requests withdrawal of the rejection of claim 1.

The remaining claims depend from claim 1 are distinguishable over the cited references for at least the reasons set forth above. Thus, the withdrawal of the rejection of claims 2-19 is respectfully requested.

NEW CLAIMS

New claims 20-24 define further distinguishing characteristics associated with the claimed locking system and are distinguishable over the cited references for at least the same reasons set forth above with respect to claim 1.

CONCLUSION

From the foregoing, further and favorable action in the form of a Notice of Allowance is earnestly solicited. Should the Examiner feel that any issues remain, it is requested that the undersigned be contacted so that any such issues may be adequately addressed and prosecution of the instant application expedited.

Respectfully submitted,

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1. (Amended) A locking system for mechanical joining of [floor-boards (1)]
floorboards, said locking system comprising a tongue-and-groove joint [(36, 38)], the
groove [(36)] and tongue [(38)] of which have cooperating upper abutment surfaces [(43,
49)] and cooperating lower abutment surfaces [(45, 52)] for vertical locking of two joint
edges [(4a, 4b)] of two adjacent floorboards [(1, 1')], said upper abutment surfaces
extending in a first plane essentially parallel to a principal plane of the floorboards and said
lower abutment surfaces [(43, 49; 45, 52) being] extending in a second plane essentially
parallel [with] to the principal plane of the floorboards [(1)], and said locking system
comprising, for horizontal mechanical joining of the joint edges [(4a, 4b)] perpendicular to
the [same] joint edges, a locking groove [(14)] formed in [the] ~~an~~ underside [(3)] of a first
one of the [joint edges (4b)] floorboards and extended in parallel therewith and spaced from
the joint edge, and a portion [(P)] projecting from [the second joint edge (4a) and integrated
with a body (30, 32, 34) of the floorboard (1)] a second one of the floorboards, said portion
[(P)] supporting, at a distance from the joint edge [(4a)], a locking element [(8)]
cooperating with the locking groove [(14)], wherein said tongue [(38)] is anglable into the
groove [(36)], and wherein the locking element [(8)] is insertable into the locking groove
[(14)] by mutual angular motion of the [boards (1, 1')] floorboards about upper portions
[(41, 48)] of the joint edges [(4a, 4b)], [c h a r a c t e r i s e d in
that,] wherein in [the] a joined state, the cooperating upper abutment surfaces [(43,
49)] are limited horizontally inwards from the joint edge and horizontally outwards to the

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joint edge by an inner vertical plane [(IP)] and an outer vertical plane [(OP)], respectively[;], [that] the tongue-and-groove joint is so designed that there is in the groove [(45), in the joined state,] between the inner vertical plane [(IP)] and the outer vertical plane [(OP)] and below the tongue [(38)], a space [(S)] which extends horizontally from the inner vertical plane [(IP)] and at least halfway to the outer vertical plane [(OP)];, an uppermost surface of the locking element is below the first plane, [that the tongue-and-groove joint is further so designed that the boards, during a final phase of the inwards angling when the locking element is inserted into the locking groove, can take a position where there is a space (S) in the groove (36) between the inner and the outer vertical plane (IP, OP) and below the tongue (38);] and [that] at least some of the lower abutment surfaces [(45, 52)] are positioned [essentially] outside the outer vertical plane [(OP)], and

wherein in an angling state, the tongue-and-groove joint is further so designed that the floorboards, during a final phase of an inwards angling when the locking element is inserted into the locking groove, can take a position where there is space in the groove between the inner and the outer vertical plane and below the tongue.

2. (Amended) The [A] locking system as claimed in claim 1, wherein said space [(S)] in the joined state is horizontally extended below the tongue [(38) essentially] all the way from the inner vertical plane [(IP)] to the outer vertical plane [(OP)], so that

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[essentially] no part of the lower abutment surfaces [(45, 52)] is positioned inside the outer vertical plane [(OP)].

3. (Twice Amended) The [A] locking system as claimed in claim 1, wherein said space [(S)] during the final phase of the inwards angling is horizontally extended below the tongue [(38) essentially] all the way from the inner vertical plane [(IP)] to the outer vertical plane [(OP)].

4. (Twice Amended) The [A] locking system as claimed in claim 1, wherein the groove [(36)] in the joined state has an upper and a lower horizontal surface which constitute inwardly directed extensions of the upper abutment surface [(43)] and the lower abutment surface [(45)], respectively, of the groove [(36)], and wherein there is in the joined state a horizontal play [(Δ)] between [the] a bottom of the groove [(36)] and [the] a tip of the tongue [(38)].

5. (Twice Amended) The [A] locking system as claimed in claim 1, wherein the outer vertical plane [(OP)] is located at a horizontal distance inside a vertical joint plane [(F)], which is defined by adjoining upper portions [(41, 48)] of the joined joint edges [(4a, 4b)] of the two floorboards [boards (1, 1')].

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6. (Twice Amended) ~~The~~ [A] locking system as claimed in claim 1, wherein the lower abutment surfaces [(45, 52)] are located at least partially outside a vertical joint plane [(F)] which is defined by adjoining upper portions [(41, 48)] of the joined joint edges [(4a, 4b)] of the two floorboards [boards (1, 1')].

7. (Amended) ~~The~~ [A] locking system as claimed in claim 6, wherein the major part of the lower abutment surfaces [(45, 52)] is positioned outside the vertical joint plane [(F)].

8. (Twice Amended) ~~The~~ [A] locking system as claimed in claim 1, wherein the projecting portion [(P)] and the groove [(36)] are arranged in one and the same joint edge [(4a)] of the floorboard [(1)].

9. (Twice Amended) ~~The~~ [A] locking system as claimed in claim 1, wherein the projecting portion [(P)] is at least partially made in one piece with a body [(30, 32, 34)] of the floorboard [(1)].

10. (Amended) ~~The~~ [A] locking system as claimed in claim 9, wherein the locking element [(8)] of the projection portion [(P)] is positioned [under or] on a level with

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or toward an underside of the floorboard from the lower abutment surface [(45)] of the groove [(36)].

11. (Twice Amended) The [A] locking system as claimed in claim 1, wherein the projecting portion [(P)] is at least partially formed of a material other than that of [the] a body of the floorboard.

12. (Amended) The [A] locking system as claimed in claim 11, wherein the projecting portion [(P)] is at least partially formed of a separate strip [(6)] which is integrally connected [(60, 62, 64)] with the board [(1)] by being mounted in the factory.

13. (Twice Amended) The [A] locking system as claimed in claim 1, wherein the projecting portion [(P)] is resilient transversely of the principal plane of the floorboards.

14. (Twice Amended) The [A] locking system as claimed in claim 1, wherein the tongue [(38)] is insertable into the groove [(36)] and the locking element [(8)] is insertable into the locking groove [(14)] by a mutual horizontal joining of the joint edges [(5a, 5b)] of the boards.

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15. (Amended) ~~The~~ [A] locking system as claimed in claim 14, wherein the groove [(36)] has in [its] ~~an~~ upper part a [bevelled] beveled portion [(42)] for guiding the tongue [(38)] into the groove [(36)].

16. (Twice Amended) ~~The~~ [A] locking system as claimed in claim 1, wherein the projecting portion [(P)], in [the] a horizontal direction between the lower abutment surfaces [(45, 52)] of the tongue-and-groove joint on the one hand and the locking element [(8)] of the projecting portion [(P)] on the other hand, has a lower portion [(7)] which is positioned [below] toward an underside of said floorboard from said lower abutment surfaces [(45, 52)].

17. (Twice Amended) ~~The~~ [A] locking system as claimed in claim 1, wherein the tongue [(38)] is anglable into the groove [(36)] and the locking element [(8)] is insertable into the locking groove [(14)] by said mutual angular motion of the boards about upper portions [(41, 48)] of the joint edges [(4a, 4b)] while said upper portions [(41, 48)] are held in mutual contact.

18. (Twice Amended) A floorboard [(1)] provided along one or more sides with a locking system as claimed in claim 1.

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19. (Amended) The [A] floorboard [(1)] as claimed in claim 18, which has opposite long sides and short sides and which is mechanically joinable along [its] ~~each~~ long [sides] ~~side~~ with a long [sides] ~~side~~ of an identical [floorboards] ~~floorboard~~ by downward angling and which is mechanically joinable along [its] ~~each~~ short [sides] ~~side~~ with a short [sides] ~~side~~ of an identical [floorboards] ~~floorboard~~ by displacement along said long sides.